

IMMUNE GLOBULIN (IG) FOR THE PROPHYLAXIS OF MEASLES*

ORDER:

1. Check the ALERT Immunization Information System to determine whether the patient needs this vaccine and any other vaccines
2. Screen for contraindications.
3. Provide product information, answering questions.
4. Obtain a signed Vaccine Administration Record (VAR)
5. Give immune globulin (IG) intramuscularly (IM) to children and adults with a 1 to 2 inch needle, depending on recipient's weight.
6. Select a large muscle mass that can support the administration of a large volume of IG.
 - a. For children <3 years of age, administer IG into the vastus lateralis (outer thigh) muscle with a 7/8 to-1 inch needle. For certain very small infants a 5/8 inch needle may be adequate.
 - b. For persons ≥3 years of age, administer IG into the ventrogluteal or dorsogluteal muscle with a 1-2 inch needle.
 - c. For adults with sufficient deltoid muscle mass, the deltoid muscle may be used.
7. Use formulation and dosage according to recipient's weight. (Section II p 2)
8. Do not administer more than 3 ml of IG per injection site in children or more than 5 ml of IG per injection site in adults.
9. IG and measles vaccine should not be given at the same time. Check table in Appendix A-19 of the 12th edition "Pink Book" for suggested intervals between IG and measles containing vaccine.
10. IG can be administered simultaneously with, or at any interval before or after, any inactivated vaccine.

Note: Measles vaccine is the biologic of choice if given within 72 hours of exposure. For persons in whom vaccine is contraindicated or more than 72 hours passed, and they are still within 6 days of exposure, immune globulin should be used.

II. IMMUNE GLOBULIN DOSE SCHEDULE FOR MEASLES EXPOSURE^{1,2,3,4}

Indications	Dose	Interval before measles vaccine administration
Standard immunocompetent contact	0.5 ml/kg (max dose 15mL) IM	5 months
Infants <12months ⁵	0.5 ml/kg IM (max dose = 15mL)	
Pregnant women without evidence of immunity	400 mg/kg IV (Intravenously)	
Severely immunocompromised	400 mg/kg IV (Intravenously) IVIG	8 months

persons ⁶		
¹ IG should be administered at room temperature and within 6 days of exposure. ² IG should only be administered to susceptible children and adults. Most infants will still have some protection from circulating maternal antibodies through their 5th month of life. The exception is infants <5 months whose mothers develop measles; indicating that she has little or no antibody against measles. ³ IGIM can be given to any person who lacks evidence of measles immunity, but priority should be given to persons exposed in settings with intense, prolonged, close contact (e.g., household, child care, classroom, etc.). ⁴ The maximum dose is 15 ml intramuscularly for all persons. ⁵ MMR vaccines can be given to infants' age 6–11 months for international travel. ⁶ Severely immunocompromised patients include patients with severe primary immunodeficiency; patients who have received a bone marrow or stem cell transplant until at least 12 months after finishing all immunosuppressive treatment, or longer where the patient has developed graft-versus-host disease; patients on treatment for Acute Lymphocytic Leukemia; until at least six months after completion of immunosuppressive chemotherapy; and patients with a diagnosis of AIDS or HIV-infected persons with CD4 percent <15% (all ages) or CD4 <200 lymphocytes /mm ³ (age >5 years) and those who have not received MMR vaccine since receiving effective Anti-Retroviral Therapy; some experts would include HIV infected persons who lack recent confirmation of immunologic status or measles immunity.		

III. CONTRAINDICATIONS:

1. IG should not be given to people with immunoglobulin A (IgA) deficiency. Persons with IgA deficiencies have the potential for developing antibodies to IgA and therefore could experience an anaphylactic reaction when IG is administered
2. IG should not be administered to persons with severe thrombocytopenia or any coagulating disorder that would contraindicate intramuscular injections.
3. History of anaphylactic reaction to a previous dose of IG.

IV. PRECAUTIONS:

1. Pregnancy: It is unknown whether IG can cause fetal harm when administered to a pregnant woman or if it could affect reproduction.
2. Careful administration in persons reporting a history of systemic allergic reaction following the administration of IG.

V. SIDE EFFECTS AND ADVERSE REACTIONS:

Event	Frequency
Tenderness, pain, or soreness at injection site. Usually resolves within 24 hours.	Common

VI. OTHER CONSIDERATIONS:

- A. IG may interfere with the response to live, attenuated vaccines (e.g. MMR, varicella) when the vaccines are administered individually or as a combined vaccine. Delay administration of live attenuated vaccines for 5 months after the administration of IG.

(Appendix A-21 12th edition, Second Printing Pink Book): Available at:

http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/mmr_ig.pdf

- B. Ideally, IG should not be administered within 2 weeks following the administration of MMR or for 3 weeks following varicella vaccine. Should this occur, the individual should be revaccinated, but no sooner than 5 months after IG administration.
- C. For individuals currently on immune globulin intravenous therapy (IGIV), the dose of 100 to 400 mg/kg should be sufficient prophylaxis for exposures occurring in the three weeks following treatment.
- D. In the event of a community outbreak, the age at which the first measles vaccine is given can be dropped to as low as 6 months. These infants, however, will still need a dose of MMR at or after 12 months of age and a third dose at school entry, 4 to 6 years of age.

VII. REFERENCES:

1. CDC. ACIP provisional recommendations prevention of measles, rubella, Congenital rubella syndrome (CRS), and mumps. Available at www.cdc.gov/vaccines/recs/provisional/downloads/mmr-Oct-2012.pdf
2. CDPH. Measles Quicksheet – August 2013. <http://www.cdph.ca.gov/programs/immunize/Documents/CDPHMeaslesInvestigationQuicksheet.pdf>
3. CDC. Measles: Postexposure Prophylaxis. In: Epidemiology and Prevention of Vaccine Preventable Diseases (“Pink Book”). Atkinson W, Hamborsky J, Wolfe S, eds. 12th ed Second Printing. Washington, DC: Public Health Foundation, 2012: 186. Available at: <http://www.cdc.gov/vaccines/pubs/pinkbook/meas.html>
4. American Academy of Pediatrics. Measles. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. Red Book: 2006 Report of the Committee on Infectious Diseases. 28th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009:447-8. Available at: <http://aapredbook.aappublications.org/>
5. Greenway K. Using the ventrogluteal site for intramuscular injection. Nurse Stand 2004; 18:39–42.
6. Nicholl LH & Hesby A. Intramuscular injection: an integrative research review and guideline for evidence-based practice. Appl Nurs Res 2002;15:149-62.
7. GamaSTAN® Immune Globulin package insert. Available at: www.talecris-pi.info/inserts/gamastans-d.pdf

*From the Oregon Health Authority Immunization Program.